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MADRAS RECORD OFFICE.

Government of Madras.

Financial DEPARTMENT.

G.O. No. 2121	Press Mis.
172-173	
Dated 18-12- 18 76.	

9/10

Not to be folded or roughly handled

Govt. of Madras. 1873

Pub.

G. O. 18 Dec. 1874 No. 2121

Nos. 172-5

Cert. Works in Nizg. Dt. Offs of
Letter from the D. Engr. Ootacamund
reporting on the damage done
by the P. Works in the Dt. during
the late heavy rains, furnished
to the Pwds. L. F. Board.

No. 172. Read the following letter from Captain J. W. HINDLE, Officiating District Engineer of Vizagapatam, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, Fort St. George, dated Vizianagram, 29th November 1874, No. 1662 :—

In continuation of my letter, No. 1528, dated 11th November 1874, I have the honor to forward, herewith, for your information, copy of a letter received from the Executive Engineer of No. II. Range, reporting on the damage done to public works by the late heavy rains.

From K. F. NORDMANN, Esq., Executive Engineer of Vizianagram, to Captain J. W. HINDLE, Officiating District Engineer of Vizagapatam, dated Waltair, 30th October 1874, No. 1007.

I have the honor to report upon some of the damages done by the late floods to the roads below mentioned, which I inspected on the 27th, 28th, and 29th instant :—

Road from Vizianagram to junction with Trunk Road near Modavalsa.—The damage here has not been very great. In some parts the gravel has been washed off the surface, and the metal exposed ; the sides of embankments have been a good deal injured.

2. *Trunk Road from Modavalsa to Chittivalsa Bridge.*—The greater part of this section of the road is very low, and the water, which was subsiding as I passed, had been rushing over considerable lengths of road, in some places to a depth of three feet and more. The surface was naturally very much cut up. This road should be raised, I think, to the level of the roadway over Chittivalsa Bridge.

3. *Chittivalsa Bridge and its Approaches.*—The northern approach is uninjured. To judge by the marks of debris, left on the slopes of the embankment, the water had been within three feet of the crown of the arches (unless a previous higher water-mark had been washed away by the rain). When I saw the bridge (27th 8 A.M.) the water had fallen to a foot below the springings, and was passing under the arches at a velocity of about six feet per second. The bridge was intact.

4. At a distance of 342 feet from the southern wingwall the flood-water had made a breach in the embankment forming the approach of the bridge. The breach was eighty feet wide, and in the centre part fourteen feet in depth. When I examined it, the water, although subsiding (it had been six feet higher) was still seven feet in depth in the middle. The traffic, which had been entirely stopped as it could not pass the breach, was resumed at 6 o'clock this morning,* bandies being with much difficulty taken round the breach over inundated fields.

* 28th.

5. Beyond the breach were 210 feet of road out of water, but very much damaged ; then came the road-dam lately finished, over which the water was still rushing with great velocity to a depth of eighteen inches and a width of forty-five feet. The road-dam could not be seen ; but from the four corners, which were standing and just visible, and from the fact of the traffic passing over it freely through the water, I surmised that the road-dam had not been swept away†.

† The road-dam is uninjured.
(Signed) J. W. HINDLE.

6. The road is much cut up to a distance of 150 feet south of the road-dam, and the water had covered the road to a distance of 540 feet beyond that dam. Further on, beyond the Bimlipatam junction, the water had been for a long distance flush with the surface of the road where the latter is taken by an embankment through the low fields.

7. Sub-Overseer Vardarajulu not being on the spot (having gone up the trunk road to Koasta, as I understood), I sent orders to Mr. Supervisor Cormac to have the breach in the approach of Chittivalsa Bridge closed *immediately*, and then to attend to the other necessary repairs according to their urgency.*

* The breach has been closed and road gravelled.
(Signed) J. W. HINDLE.

8. I also requested Mr. Cormac to take a line of levels from the roadway over Chittivalsa Bridge, along the road both north and south, until he regains the level of the roadway, and to prepare an estimate for raising the embankment in this part to the level of the roadway over the bridge. I instructed him further to give me an accurate section through the breach and over the road-dam, to enable me to design an auxiliary bridge for this place. The existing bridge is evidently insufficient for the discharge of the flood-water which spreads over a great width of country; and the approach will always be liable to breaches, endangering the bridge itself and interrupting traffic, unless an additional bridge is provided to let the water during great floods pass through.

9. *Road from junction to Bimlipatam.*—In many places the water has been over the road, in most parts just flush with the surface. In the former case the gravel has been generally washed off the metal. The sides of embankments are considerably injured, some of the approaches to culverts have sunk, and some guard-stones have fallen down. Near one culvert, about a mile outside of Bimlipatam, there was a breach on the road which was being filled up by a Gumastah and a gang of coolies as I passed.

10. *Gambiram Road.*—The metalled portions have stood well; those that are only gravelled are somewhat cut up. In a few places the gravel has been washed off and the sides have been damaged. The filling near the ends of the wingwalls of several culverts has been washed away, causing the guard-stones to sink or fall down, and exposing the wings. The stone pitching of the earth, that is to protect the wingwalls against the current up and down stream, has been destroyed in several cases. I gave Overseer Soobiah, who was with me, instructions about the repairs of all these damages.

11. *Road from Vamalavalsa to Waltair.*—The new culvert, built instead of the former road-dam near the Gambiram junction, which had just been finished, has been partly carried away, and the remaining portions have been so shaken that the whole will have to be taken down and rebuilt. The masonry was quite fresh, the chunam had not set, and the dimensions of the culvert were not calculated to provide for the enormous mass of water that suddenly required discharge. The immediate cause of this accident was the breaching of the Gambiram tank, situated just above the road, within a quarter of a mile distance. I think it is a point for consideration whether the owner of the tank should not indemnify the Government for the loss of the culvert.

Since repaired.
J. W. H.

12. The water had been over the culvert as well as over the adjacent bridge, cutting up the road, and endangering the wingwalls of the bridge, by washing away the earth behind and the stone pitching in front of the wings. It is fortunate that the bridge was not carried away as well as the culvert; and such a contingency may be looked for during any flood hereafter, unless steps are taken to induce the owner of the tank to take proper care of its bund and escapes, so as to prevent its being breached in future.

13. Beyond this bridge there had been a breach in the road eighteen feet wide, which was being repaired as I passed. Further on, in many places the gravel had been washed off the surface, and the sides damaged. At nearly all the bridges and culverts the earth behind the wings had been loosened or washed out; while the stone pitching of the slopes and the revetments of the sides had been everywhere much injured, and in many places carried away.

14. Taken altogether, the repairs required in consequence of these floods will consume the greater part of the balance remaining unspent of the current year's maintenance grant.

Transferred to the Financial Department in continuation of letter communicated with G.O., No. 3421, of the 5th December.

FORT ST. GEORGE,
8th December 1874.

(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government, P. W. D.

No. 173. ORDER THEREON, 18th December 1874, No. 2121.

Copy furnished to the President of the Local Fund Boards in the Vizagapatam District.

(True Extract.)

Acting Chief Secretary.

To the President of the Local Fund Boards in Vizagapatam.

Exd. J. Wright.

Govt. of India Works

FINANCIAL.

To

The PRESIDENT of the
LOCAL FUND BOARD,
of VIZAGAPATAM.

Dated December, 1874.

Read.

G.O. 1811 December 1874, No. 2221.

DECEMBER.

Nos. 172-173.

Public Works in Vizagapatam District.
Copy of letter from the District Engineer, reporting on the damage done to the roads below mentioned during the late heavy rains, with estimate of the cost of repairs.

No. 1007.

Executive Engineer's Office
Camp Waltair 30th October 1874.

From

The Executive Engineer
Vizianagram

To

The Offg District Engineer
Vizagapatam

Sir,

I have the honor to report upon some of the damages done by the late floods to the roads below mentioned, which I inspected on the 27th 28th and 29th instant.

Road from Vizianagram to junction with Tuni Road near Madavelsa. The damage here has not been very great. In some parts the gravel has been washed off the surface, and the metal exposed; the sides of embankments have been a good deal injured.

Road from Madavalsa to Chillamulsa Bridge. The greater part of this section of the road is very low, and the water, which was subsiding as I passed, had been rushing over considerable length of road, in some places to a depth of three feet and more.

The

The surface was naturally very much cut up. This road should be raised, I think, to the level of the roadway over Chittivalsa Bridge.

3. Chittivalsa Bridge and its approaches.

The Northern approach is uninjured. To judge by the marks of debris, left on the slopes of the embankment, the water had been within 3 feet of the crown of the arches (unless a previous higher water mark had been washed away by the rain). When I saw the bridge (27th 8 A.M.) the water had fallen to a foot below the springings, and was passing under the arches at a velocity of about 6 feet per second. The bridge was intact.

4. At a distance of 342 feet from the southern Wing wall the flood water had made a breach in the embankment forming the approach of the bridge. The breach was 80 feet wide, and in the centre part 14 feet in depth. When I examined it, the water, although subsiding (it had been 6 feet higher) was still 7 feet in depth in the middle. The traffic, which had been entirely stopped as it could not pass the breach, was resumed at 6 o'clock this morning; bandies being with much difficulty taken round the breach over the inundated fields. ×28th

5. Beyond the breach were 210 feet of road out of water, but very much damaged; then came the road dam lately finished over which the water was still pushing with great velocity, to a depth of 18 inches and a width of 45 feet. The road dam could not be seen; but from the 4 Corners, which were standing and just visible, and from the fact of the traffic passing over it freely through the water, I surmised that the road dam had not been swept away. ×

× The Road dam is uninjured

6. The road is much cut up to a distance of 150 feet south of the road dam, and the water had covered the road to a distance of 540 feet beyond that dam. Further on, beyond the Bmilipatam junction, the water had been for a long distance flush with the surface of the road where the latter is taken by an embankment through the low fields.

7. Sub Overseer Vardarajulu, not being on the spot (having gone up the Trunk Road to Koasta, as I understood), I sent orders to Mr Supervisor Cormac to have the breach in the approach of Chittivalsa bridge closed immediately, and then to attend

to the other necessary repairs, according to their urgency. *

3. I also requested Mr Cormac to take a line of levels from the road way over Chittivalsa Bridge, along the road both North and South, until he regains the level of the road way, and to prepare an estimate for raising the embankment in this part to the level of the roadway over the bridge. I instructed him further to give me an accurate section through the breach and over the road dam, to enable me to design an auxiliary bridge for this place. The existing bridge is evidently insufficient for the discharge of the flood water which spreads over a great width of country; and the approach will always be liable to breaches, endangering the bridge itself and interrupting traffic, unless an additional bridge is provided to let the water during great floods pass through.

9. Road from junction to Bimlipatam

In many places the water has been over the road, in most parts just flush with the surface. In the former case the gravel has been generally washed off the metal. The

* The breach breaches close road gravelled
W M Ward

sides of embankments are considerably injured, some of the approaches to culverts have sunk, and some guard stones have fallen down. Near one culvert, about a mile outside of Bimlipatam there was a breach on the road which was being filled up by a Gumasta and a gang of coolies as I passed.

10. Gambeeram Road. The metalled portions have stood well, those that are only gravelled are somewhat cut up. In a few places the gravel has been washed off and the sides have been damaged. The filling near the ends of the wing walls of several Culverts has been washed away, causing the guard stones to sink or fall down, and exposing the wings. The stone pitching of the earth, that is to protect the wing walls against the current up and down stream has been destroyed in several cases. I gave Overseer Loobiah, who was with me, instructions about the repairs of all these damages.

11. Road from Vamulavalsa to Waltair

The new culvert, built instead of the former road dam, near the Gambiram junction, which had just been finished has been partly carried away; and the

remaining portions have been so shaken, that the whole will have to be taken down and rebuilt. The masonry was quite fresh, the Chunam had not set; and the dimensions of the Culvert were not calculated to provide for the enormous mass of water that suddenly required discharge. The immediate cause of this accident was the breaching of the Gamberam Tank, situated just above the road, within a quarter of a mile distance. I think it is a point for consideration whether the owner of the Tank should not indemnify the Government for the loss of the Culvert.

12. The water had been over the Culvert as well as over the adjacent bridge, cutting up the road, and endangering the wing walls of the bridge, by washing away the earth behind and the stone pitching in front of the wings. It is fortunate that the bridge was not carried away as well as the Culvert, and such a contingency may be looked for during any flood here after, unless steps are taken to induce the owner of the tank to take proper care of its bund and escapes, so as to prevent its being breached in future.

Beyond

13. Beyond this bridge there had been a breach in the road 18 feet wide, which was being repaired as I passed. Further on, in many places the gravel had been washed off the surface, and the sides damaged. At nearly all the bridges and Culverts the earth behind the wings had been loosened or washed out; while the stone pitching of the slopes, and the revetments of the sides had been every where much injured, and in many places carried away.

14. Taken altogether, the repairs required in consequence of these floods will consume the greater part of the balance remaining unspent of the current years maintenance grant.

I have the honor to be
Sir
Your most obedient Servt
(Signed) K.F. Nordmann
Executive Engineer

(True Copy)

W W Kindle. Captain
Offg District Engineer, Vizagapatam

Consd
No 1.

Rec'd 29 Nov 1876
Dr Paid Rs 2584/12

134/1

District Engineer's Office
Camp Vizianagram
29th November 1876

No. 1662

From

Captain G. W. Hindle
Offg. District Engineer, Vizagapatam

To

Colonel G. W. Walker R.E
Secretary to Government P.W.D
Madras

Sir,

In continuation of my letter No. 1528 dated 11th November 1876, I have the honor to forward herewith for your information copy of a letter received from the Executive Engineer of Y.M. Range, reporting on the damage done to Public Works by late heavy rains.

I have the honor to be
Sir
Your most obedient servant
G W Hindle Captain
Offg. District Engineer
Vizagapatam

Copied 1876

Fort St. 10 Dec. 74 No. 2673

Transferred to the Financial Dept. in continuation of letter communicated with Govt. No. 3421 of 5th December.

Commr. Coll. Rd.
Secy. to Govt. P.W.D.

Fort St. George
8th Dec. 74

P.W. 1874 Depart. Financial
From No. 7637.
The Offg. District Engineer
Vizagapatam
To
The Secretary to Govt. P.W.D.
Madras
Dated 29th November 1874
Recd. 7th December 74.
No. 1662 & 2584
E. 1. Recd. 8. Dec. 74

Submitting further report on the damage done to Public Works by the late heavy rains.

Transferred with Order.

Vizagapatam 29th November 1874.

Sir,

I have the honor to forward herewith a further report on the damage done to Public Works by the late heavy rains.

I have the honor to be
Sir
Your most obedient servant
Offg. District Engineer

To
The Secretary to Govt. P.W.D.
Madras

C 14/12 Public